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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/610,284	07/06/2000	Herbert Bachler	32794	5343

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EXAMINER

DABNEY, PHYLES HA LARVINIA

ART UNIT	PAPER NUMBER
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2646

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/610,284

Applicant(s)

BACHLER ET AL.

Examiner

Phylesha L. Dabney

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/4/05.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the arguments received on 04 March 2005 in which claims **12-27** are pending and claims **1-11** were cancelled.

Drawings

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). There are supposed to be 3 drawing sheets, but there is only a record of a drawing sheet for figure 1.

Claim Objections

Claim **12** is objected to because of the following informalities: grammatical error in lines 19-20 for example. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2646

Claims 12-13, 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over “IEEE 1451: P A Standard in Support of Smart Transducer Networking”.

Regarding claims **12-13, 15, and 22**, the article “IEEE 1451: A Standard in Support of Smart Transducer Networking” teaches self-contained hardware units (smart transducers standard 1451, page 525, col. 1 under the summary, lines 9-12), peripheral with respect to a digital signal processing (microprocessor, page 528, col. 1 lines 1-4) unit inherently having inputs and outputs and operationally connected to said inputs and outputs of the said digital signal processing unit; an identification unit (TEDS, page 526, col. 1 lines 1-11) in at least one of said peripheral self-contained hardware units, the an identification unit (page 527, col. 2 lines 1-11) having an output and containing identification information identifying said hardware unit; a storage unit (NCAP, page 526, col. 1 section 2.1 lines 11-15; page 527 section 2.3 lines 16-19; also see pertinent prior art section below) remote from said hardware unit containing identification information of identifying more than one hardware peripheral unit (page 527, col. 1 lines 12-19) inherently having an output; a comparing unit (Plug and Play feature inherently comprising a comparing unit, page 528, section 4, col. 1 lines 13-14) remote from said hardware unit and having a first input, a second input, and an output, said output of said identification unit being operationally connect[ed] to the first input and said output of said storage unit being operationally connected to the second input; and a memory unit (NCAP inherently having a memory unit as related to Plug and Play, page 526, col. 1 section 2.1 lines 11-15; page 527 section 2.3 lines 16-19; also see pertinent prior art section below) being operationally connected to the output of said comparing unit for storing the current configuration of said hearing device with respect to said peripheral self-contained hardware unit.

Art Unit: 2646

The IEEE 1451 article does not teach this specific element configuration, i.e. self-contained hardware units, etc., being used in a hearing aid device. However, since the article teaches a known standard for the common interface and connectivity of self-contained peripherals, i.e. transducers, microphones, sensors, actuators, or the like, to microprocessing systems and the article doesn't exclude a hearing device from the type of microprocessing system used for enabling the technological advancement of smart transducers interfacing, it would have been obvious to one of ordinary skill in the art that the specific element configuration outlined could have been used in the hearing aid device for beneficially allowing the upgrade of transducers with higher accuracy and enhanced capability, and replacing transducers for maintenance purposes by simple "Plug and Play".

Regarding claim 14, the article teaches the at least one of the self-contained peripheral hardware units and the digital signal processing unit is operationally connected via at least one data bus and interface unit (microprocessor, page 528, col. 1 lines 1-4).

Regarding claim 16, the article does not specifically teach the interfaces including three-wire and/or two-wire interfaces (page 527 col. 2 lines 1-6). However, the examiner takes official notice that it is known in the art to use two-wire or three-wire interfaces (integrated circuits, ICs) to allow multiple peripherals the ability to transmit and receive information via an integrated circuit as opposed to multiple wiring structures. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two-wire and/or three-wire interfaces to simplify the wiring structure of the hearing aid.

Regarding claim 17, the article teaches at least a second of the at least one self-contained hardware peripheral units page 527, col. 1 lines 16-17), and wherein the one of said self-

Art Unit: 2646

contained hardware peripheral units treating audio signal components (analog transducer, page 525 col. 1 line 13) of the device and being operationally connected to the digital processing unit via a first data bus with first interface units (page 527, col. 1 lines 12-19); and the second of the self-contained hardware peripheral units treating control being operationally processing unit via a second data bus and second interface units (page 527, col. 1 lines 12-19).

Regarding claims 18-19, see rejection of claims 12 and 16.

Regarding claims 20-21, the article does not teach the first interfaces preferably being at least three-wire interfaces, the second interfaces preferably being at least two-wire interfaces, the former preferably being based on I²S interfaces and the latter preferably being based on I²C interfaces. However, the examiner takes official notice that it is known in the art to use two-wire or three-wire interfaces (integrated circuits, ICs) to allow multiple peripherals the ability to transmit and receive information via an integrated circuit as opposed to multiple wiring structures. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use two-wire and/or three-wire interfaces to simplify the wiring structure of the hearing aid. Furthermore, it would have been obvious to one of ordinary skill in the art to use two-wire interface connected to the control components for transmitting one line of data (one transmit/receiver signal) plus one clock line and three-wire interfaces connected to the audio components for transmitting two lines of data plus one clock line (such as a left and right audio signal) plus one clock line. Therefore, it would have been obvious to one of ordinary skill in the art to use multiple type of integrate circuit interfaces in the invention for transmitting and/or receiving different type of signals and simplifying the wiring structure.

Art Unit: 2646

Regarding claim 23, the rejection does not teach the output of the device is an output of a transceiver. However, it is known for hearing aid device to utilize transceivers for remotely sending and receiving data. Therefore, it would have been obvious one of ordinary skill in the art at the time the invention was made to use a transceiver in the hearing device for wirelessly transmitting data.

Regarding claims 24-27, see the rejection of claims 12-15 as pertaining to the method of claims 24-27.

Response to Arguments

Applicant's arguments with respect to claims 12-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The article: "IEEE 1451 node, STIM and NCAP" teaches further details of the operation of the NCAP, the connectivity of the NCAP to the STIM, and implementation of the NCAP to read and store TEDS of multiple transducer (page 544 col. 1 lines 16-19).

U.S. Patent No. 6,859,538 (Christopher Voltz) teaches peripheral audio system having a speaker with a memory unit used in computer device.

Art Unit: 2646

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L. Dabney whose telephone number is 571-272-7494. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 1, 2005


PLD


SINH TRAN
SUPERVISORY PATENT EXAMINER